

APPARATUS AND METHOD FOR FORWARDING ENCAPSULATED DATA
PACKETS ON A NETWORK HAVING MULTIPLE LINKS BETWEEN
NODES

5 Abstract of the Disclosure

An apparatus and method for encapsulating and forwarding packets on a network are disclosed. The network can include a first subnetwork such as a virtual private network connected to a larger public network such as the Internet. An encapsulating header is attached to a packet to be transferred across the public network from a source node on the private network to a destination node on the private network, such that the packet can be transferred across the public network. The encapsulating header includes a value which is derived from the private header on the packet used to transfer the packet along the private network. The value is therefore associated with a source/destination pair within the private network. The value can be derived by performing a hash operation on the private network header. After the public network header containing the value derived from the private network header is attached to the packet, it can be forwarded across the public network. A logical operation such as a hash operation can be performed on the public network header to select one of a plurality of possible paths on the public network to forward the packet. As a result, each source/destination pair within the private network will be associated with a path within the public network. Traffic from the private network can therefore be distributed over multiple paths in the public network, thus reducing or eliminating traffic congestion and overload.